

METHOD AND APPARATUS FOR AUDIO/IMAGE SPEAKER DETECTION AND LOCATOR

Background of the Invention

1. Technical Field

5 The present invention relates to a method and apparatus for a video conferencing system using an array of two microphones and a stationary camera to automatically locate a speaker and electronically manipulate the video image to produce the effect of a movable pan tilt zoom (“PTZ”) camera.

2. Related Art

Video conferencing systems which determine a direction of an audio source relative to a reference point are known. Video conferencing systems are one variety of visual display systems and commonly include a camera, a number of microphones, and a display. Some video conferencing systems also include the capability to direct the camera toward a speaker and to frame appropriate camera shots. Typically, users of a video conferencing system direct
15 movement of the camera to frame appropriate shots. Existing commercial video conferencing systems use microphone arrays to automatically locate a speaker and drive a pan tilt zoom (“PTZ”) video camera. See, for example, (1) Patent Cooperation Treaty Application WO 99/60788, entitled “Locating an Audio Source”, and (2) United States Patent No. 5,778,082 entitled “Method and Apparatus for Localization of an Acoustic Source”, issued on July 7, 1998
20 to Chu *et al.*, both documents incorporated herein by reference.

